Patent claims

1. An apparatus (100) for winding a cable-like material (200), having

- a winding arrangement (150), on which the cable-like material can be wound up,

- a first gripping arrangement (130), for linearly advancing the leading end of the cable-like material (200) and for transferring the same to the winding arrangement (150),

- a second gripping arrangement (140), for receiving the abovementioned leading end of the cable-like material from the winding arrangement (150) and for moving this leading end linearly away from the winding arrangement (150), it being the case that

- the abovementioned first gripping arrangement (130) is set up for gripping the trailing end of the cable-like material (200) and, in conjunction with the second gripping arrangement, evening it out to a predetermined difference between the ends.

2. The apparatus as claimed in claim 1, wherein the winding arrangement (150) has a coil gripper (154) which is set up such that, with it, it is possible for the winding operation to be carried out on a winding container (152).

3. The apparatus as claimed in claim 1, wherein the winding arrangement (150) has means (180, 182, 184, 186) which allows the coil to be clamped firmly and released.

4. The apparatus as claimed in claim 3, wherein the means (180, 182, 184, 186) which allows the coil to be clamped firmly and released have securing means (180a, 182a, 184a, 186a) which has the effect of bounding the coil in the upward direction.

5. The apparatus as claimed in claim 1, which comprises a guide means (158) for guiding the coil vertically on the winding arrangement (150) and for avoiding the situation where the coil is disturbed by the winding-container gripper (154).

6. The apparatus as claimed in claim 1, wherein the top region of the winding arrangement (150) has two mutually opposite recesses (190, 192) for tying off the wound reel and transporting it further.

7. A process for winding a cable-like conductor material (200), having

- a winding arrangement (150), on which the cable-like conductor material can be wound up and having a winding-container gripper (154),

- a first gripping arrangement (130), for linearly advancing the leading end (201) of the cable-like conductor material (200) and for transferring the same to the winding arrangement (150),

- a second gripping arrangement (140), for receiving the abovementioned leading end (201) of the cable-like

conductor material from the winding arrangement (150) and for moving this leading end linearly away from the winding arrangement (150), comprising the following steps

- (A) transferring the leading end (201) of the cable-like material to the first gripper arrangement (130),

- (B) advancing the leading end (201) of the cable-like conductor material (200) and guiding it by way of the first gripping arrangement (130),

- (C) transferring the leading end (201) of the cable-like material to the winding-container gripper (154),

- (D) winding the cable-like conductor material (200) on the winding arrangement (150),

- (E) transferring the trailing end (202) of the cable-like conductor material (200) to the first gripping arrangement (130),

- (F) cutting the cable-like conductor material (200) to length,

- (H) transferring the leading end (201) of the cable-like conductor material to the second gripping arrangement (140),

- (I) evening out the two ends (201, 202) of the cable-like conductor material (200) by aligning the first gripper arrangement (130) with the second gripper arrangement (140),

- (J) relieving the coil on the winding arrangement (150, 152) of stressing.

8. The process as claimed in claim 7, which comprises the additional step of rotating the winding container into a coil-removal position following the stressing-relief step (J).

9. The process as claimed in claim 7, which comprises the additional step, following the step (F) of cutting the cable-like conductor material (200) to length, of rotating the winding container (152) until the winding-container gripper (154) assumes a transfer position in relation to the second gripper arrangement (140).

10. The process as claimed in claim 7, wherein the first gripper arrangement (130), for a certain part of the travel path, is moved out of the longitudinal direction in order to avoid interfering with the winding-container gripper (154), and is moved into the original line of travel again once the first gripper arrangement (130) has passed the winding-container gripper (154).